

In re application: Hwang *et al.*  
Filed: 07/18/2002  
Response Dated 02/06/2004

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Serial No.: 10/198,528  
Atty. Dkt. No. PAT021US.C2  
Reply to Office action of 10/07/2003

### LISTING OF CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

#### Listing of Claims:

1-10 (withdrawn)

11. (currently amended) A VCSEL comprising:  
a substrate having a back surface and a front surface;  
a first reflector disposed on the front surface of the substrate;  
an active region disposed on the first reflector; and  
a second reflector disposed on the active region such that the active region is interposed between the first reflector and the second reflector, wherein the back surface of the substrate comprises anti-reflection ~~features~~ means for reducing specular reflection of light into the active region.

12. (currently amended) The VCSEL of claim 11, wherein the anti-reflection ~~features~~ means ~~are comprise~~ anti-reflection ~~rows~~ row means.

13. (original) The VCSEL of claim 11, wherein the anti-reflection features are etched on the back surface using a selective wet etching solution.

14. (canceled)

15. (canceled)

16. (original) The VCSEL of claim 11, wherein the anti-reflection features are etched on the back surface by photoelectrochemical etching.

17. (original) The VCSEL of claim 16, wherein the anti-reflection features are etched on the back surface by scanning the back surface with a line-focused laser.

18. (canceled)

19. (canceled)

20. (currently amended) An array of VCSELs sharing a common substrate, each VCSEL comprising:  
a substrate having a back surface and a front surface;  
a first reflector disposed on the front surface of the substrate;  
an active region disposed on the first reflector; and  
a second reflector disposed on the active region such that the active region is interposed between the first reflector and the second reflector, wherein the back surface of the substrate comprises anti-reflection ~~features~~ means for reducing specular reflection of light into the active region of each VCSEL.

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21. (currently amended) The array of claim 20, wherein the anti-reflection features means are comprise anti-reflection rows row means.

22. (canceled)

23. (canceled)

24-36 (withdrawn)